DOCUMENT RESUME

ED 481 784 HE 036 290

AUTHOR	Walters, Garrison; Powell, Wayne; Yates, Albert
TITLE	Graduate Education in Arkansas: Doctoral and Specialist Degrees.
INSTITUTION	Arkansas State Dept. of Higher Education, Little Rock.
PUB DATE	2000-06-10
NOTE	30p.; A report prepared for the Arkansas Higher Education Coordinating Board.
PUB TYPE	Reports - Evaluative (142)
EDRS PRICE	EDRS Price MF01/PC02 Plus Postage.
DESCRIPTORS	*Cost Effectiveness; *Doctoral Degrees; *Graduate Study; Higher Education; *Needs Assessment; *Specialist in Education Degrees
IDENTIFIERS	*Arkansas

ABSTRACT

The Arkansas Higher Education Coordinating Board directed the Arkansas Department of Higher Education (ADHE) to conduct a study of the graduate education needs of the state and the wise use of limited state resources to meet these graduate education needs. ADHE staff collected information from a variety of sources. As of February 2000, the ADHE staff had received six proposals for new doctoral programs and four universities proposed a collaborative doctoral program. Recommendations were made by the ADHE about these proposed programs. These recommendations make the point that, despite the long-term importance of doctoral programs to the economic future of the state, its short-term priorities should be in improving access to higher education and in strengthening science and engineering programs at all levels. The example of Ed.D. and Ed.S. degrees, which fall into the practitioner/professional degree category, rather than the research degree category, illustrates some of the complexities of implementing new doctoral programs. Despite the need for more Ed.S. training, the review staff of the ADHE concludes that the state should be cautious about the extent to which resources are focused on these programs. They should not detract from the fundamental mission of training and supporting teachers. New Ed.S. programs should establish formal cooperative agreements with existing programs. Similar analyses discuss the situation for social science and humanities doctorates, knowledge and information management programs, and physical science and life science programs. Specific recommendations are made for individual institutions. The overall conclusion is that in the short run, investments in doctoral programs will provide a comparatively smaller economic "bang for the buck." An appendix outlines some outcomes of the Graduate Education Study. (SLD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

GRADUATE EDUCATION IN ARKANSAS

DOCTORAL AND SPECIALIST DEGREES

ED 481 784

A Report Prepared For The

ARKANSAS HIGHER EDUCATION COORDINATING BOARD

By

Dr. Garrison Walters, Ohio Board of Regents

Dr. Wayne Powell, Oklahoma State University

Dr. Albert Yates, Colorado State University

June 10, 2000

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

L. Hardin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

I. Introduction

In the past year, the Arkansas Higher Education Coordinating Board has become increasingly aware of the role of higher education in helping the State of Arkansas meet its needs in terms of overall economic development and improving the lives of the citizens of the state. At the same time, there has been a significant increase in the development of proposals for doctoral programs by the state's universities. The Coordinating Board felt it was an appropriate time to determine the needs of the state in terms of graduate education, specifically doctoral and specialist level programs. Thus, at its February 4, 2000 meeting, the Board directed the Arkansas Department of Higher Education to conduct a study of the graduate education needs of the state of Arkansas and on the wise use of limited state resources to meet these graduate education needs.

The staff, with input from the universities, selected three consultants to conduct the study: Dr. Garrison Walters, Vice Chancellor for Academic and Access Programs, Ohio Board of Regents; Dr. Wayne Powell, former Dean of the Graduate College, Oklahoma State University (became Vice President for Academic Affairs at Lenoir-Rhyne College as of June 1); and Dr. Albert Yates, President, Colorado State University.

ADHE staff collected information and data including state and institutional budgets, Coordinating Board policies, a projection of vacancies of Arkansas school administrators, higher education data from comparable states to Arkansas, and institutional policies and data. This information was provided to the Review Team members prior to their visit to the state. The team met in Little Rock on May 3 and met with selected legislators, state officials, business leaders, and members of the Coordinating Board. (Due to scheduling conflicts, Dr. Yates was unable to participate in the Team visit. He has reviewed all drafts of the report and participated in a conference call. During that time, Dr. Yates commented on the report in philosophical terms.) On May 3-5, the Review Team visited the campuses at University of Arkansas for Medical Sciences, University of Arkansas at Little Rock, University of Central Arkansas, Arkansas State University, and University of Arkansas, Fayetteville. The team members met with senior administrators, deans, department heads, and faculty members to discuss the institutional plans for doctoral education. The team also met with administrators from Arkansas Tech University and Henderson State University to discuss their plans for new Ed.S. programs.

The staff developed a list of outcomes to be addressed in the report. (See Appendix A). The Review Team has addressed those issues throughout the body of the report.

BEST COPY AVAILABLE

II. The higher education landscape

In Arkansas, there are thirty-three public colleges and universities: twenty-three two-year institutions, nine four-year institutions and the medical sciences campus. There are twelve independent colleges and universities.

Five public universities offer 45 doctoral programs, 69% (31) of which are delivered by the University of Arkansas, Fayetteville. The balance is divided among Arkansas State University (2), University of Arkansas at Little Rock (3), University of Arkansas for Medical Science (7), and University of Central Arkansas (2). Four universities offer 12 specialist degrees: UAF (7), ASU (2), UALR (2), and UCA (1).

The Arkansas Higher Education Coordinating Board is responsible for the statewide planning and coordination of higher education in Arkansas. The Arkansas Department of Higher Education (ADHE) administers the policies adopted by the Coordinating Board.

The Coordinating Board has the authority to approve the institutional role and scope of institutions, the organizational structure within the institutions, and the establishment of new institutions. In addition, the Board approves requests for new degree programs and reviews existing degree programs with consideration for the most efficient use of state resources.

As of February 2000, the ADHE staff has received six proposals for new doctoral programs, three each from ASU and UAF. In addition, notification has been submitted to the ADHE of the intent of four universities (UAF, UALR, UAMS, and UCA) to propose a collaborative doctoral program.

III. The doctorate in context

Although it is common for people to refer to "doctoral programs," and to the category of "doctoral universities," it is valuable to distinguish between two distinct types of doctoral degrees. The recommendations provided later in this report must be taken in the context of the typology given in this section.

Types of doctorates

In this report, doctoral degrees are categorized as "practitioner/professional doctorates" or "research doctorates" according to their orientation and focus.

Practitioner/professional doctorates

One way to distinguish the two types of doctorates is that the practitioner/professional doctoral programs do not have research as a major component and desired end result. Such degree programs should not be offered under the designation of Ph.D., a title that is appropriately reserved for research centered programs as described in the next section. The practitioner/professional doctorates are not second class in a vertical hierarchy of degree programs. Rather, they are the terminal academic degree in a parallel structure that seeks to accomplish different academic goals. Some of the

most important characteristics of the practitioner/professional doctorates are described here.

The focus of practitioner/professional doctorates

Practitioner/professional doctorates are intended to provide the highest level of academic education, with the objective of placing students directly into a professional environment. The Ed.D. is an example of a practitioner/professional doctoral degree, one that seeks to train practitioners in the academic arena. Research is usually a component of the Ed.D. program, but it is not the central focus. The recently approved Doctor of Physical Therapy (D.P.T.) is another example of a practitioner/professional doctorate; it is intended to produce graduates with a very high level of knowledge on the practitioner side of the physical therapy discipline. The Ph.D. in Physical Therapy, by contrast, is intended to train researchers in the discipline. There is a common core to these two degrees, but a different terminal focus, different employment expectations, etc.

Student characteristics of practitioner/professional doctorates

Students in practitioner/professional doctorates are typically residents of their university's community or region, and are pursuing the program on a part-time basis. Their objective in securing a doctorate is normally to secure the knowledge, and the corresponding credential, which will enable them to achieve higher levels of responsibility in a narrowly defined range of occupations. Graduates of these programs normally have little difficulty in securing employment. Most are already employed, and therefore undertake study with a very well grounded knowledge of the additional opportunities that await them.

Resources required for practitioner/professional doctorates

Practitioner/professional doctoral degrees normally assure that their graduates have some research skills. This requirement stems from the fact that, as they move through their careers, practitioner/professional graduates will need to be informed consumers of research, but not necessarily the creators of new knowledge. This is an important distinction between the practitioner/professional doctorates and the research doctorates, in that the latter requires that their graduates show the ability to expand the discipline's knowledge base through the production and publication of original research. Many practitioner/professional programs are far less expensive to develop and sustain than research doctorates because they often do not require the considerable resources needed to support the development of new knowledge. In some cases, however, the practitioner/professional programs can be equally expensive because of the cost of the clinical components.

Research doctorates

Research doctorates are, in most respects, very different from practitioner/professional doctorates. This is illustrated by comparing the two across the categories given above.

The focus of research doctorates

Research doctorates are designed to prepare research scholars who are capable of operating independently and in collaboration with other scholars

to advance the knowledge base of their discipline. They also create an active enterprise of scholarly interaction between graduate students, faculty, and researchers outside the university.

Research doctorates use the Ph.D. title and traditionally place graduates directly in academic or research positions. In recent years there has been growth in a special version of the research doctorate, the "applied" Ph.D. These programs have concentrated on research in the same way as the traditional Ph.D., but do so in a way that emphasizes applications of the discipline rather than the theory alone.

Student characteristics of research doctorates

Students in strong research doctorates are recruited from national and international pools. They matriculate from a wide variety of backgrounds, both academically and culturally, a fact which helps to enliven the intellectual environment of the programs. They are more often "traditional" in that they tend to come directly from bachelor or master's programs at other universities. More often than not, students in research doctorates are attending school full-time.

Resources required for research doctorates

There is usually a very considerable investment needed for the development and support of research doctorates. Resources necessary for a nationally recognized program include, in addition to highly qualified faculty, competitive assistantships, research facilities (such as laboratories), faculty time designated solely for research, faculty time designated for student supervision and mentoring, travel funds for students and faculty, and so on.

Other types of doctorates

From time to time there is discussion of new types of doctorates, ones that cross the boundaries between practitioner/professional and research categories or ones that extend research to focus on teaching, etc. The track record of such efforts in the past has not been good. One example is the Doctor of Arts in Teaching; a degree category that was intended to be similar to the Ph.D. but with an emphasis on preparing graduates to teach. This idea, although it attracted considerable attention some thirty years ago, has not attracted the kind of support originally expected.

The Review Team is skeptical that new approaches will change the doctoral landscape, and is especially doubtful that Arkansas is the place to launch them. There are a number of reasons: 1) achieving national credibility for a new degree will almost certainly mean that the first offerings will have to come from universities who are established leaders-- and even then it will take time; and 2) different programmatic strategies will not necessarily mean reduced resource requirements. Because they require a high degree of individual attention, doctoral programs of all kinds are expensive. In any case, a degree that does not have a principal research focus but instead has a different raison d'être, such as teaching or service, should not be called a Ph.D. It is no more appropriate to call a non-research degree a Ph.D. than it is to call all clinical degrees an M.D.

The Benefits of Doctoral Education

There are a variety of perspectives from which to consider the benefits of doctoral education. Since the issue here is taken in the context of public investment, we will consider it narrowly, focusing on the impact of both types of doctorates first in the national/ international context and second on the effects of these programs within their home region.

International/national

Practitioner/professional doctorates, which typically draw their students from a region and place them there, have a very different national and international impact than Ph.D. programs, which both draw students and place graduates with little emphasis on their home region. Thus, a practitioner/professional program can be very successful and still have very little impact nationally.

A research doctorate such as a Ph.D., however, cannot be considered to be of high quality unless it has national or international impact. The research and advanced knowledge that flows from Ph.D. programs is measured principally in the international and national arenas and must be recognized on this scale for the program to be of high quality.

Local/regional

It should be expected that a practitioner/professional program will have a significant impact on the region where it is placed. The graduates often come from the region and return to work in the same area, sometimes in the same jobs, with enhanced knowledge and skills.

With the exception of some of the applied doctorates and programs that have an important clinical component, Ph.D. graduates are not usually placed in a university's region. In fact, if the Ph.D. is a program of high quality, its graduates should be marketable on a national scale. Ph.D. programs can still have a very important local/ regional impact through activities such as consulting and clinical work. In addition, bachelor's and master's students will sometimes receive benefits by studying in the intellectual environment created by a thriving Ph.D. program. In special circumstances, enhanced institutional prestige resulting from a quality Ph.D. program can also provide benefit to the region. Each of these factors is discussed briefly below.

Although it is sometimes the case that doctoral programs enhance bachelor's programs, this is not a sufficient reason to develop doctoral programs. In fact, the revival of interest in undergraduate education that began in the late 1980s was in large part a reaction to experience (backed in many cases by data), that showed faculty decreasing the time spent on undergraduate programs in order to meet the exigencies of doctoral education. These demands include factors such as: the need for small seminars, the necessity of one-on-one work with students on dissertations, and the requirement that faculty use as much time as possible to enhance their own research—something that is essential in order to justify graduate faculty status.

The concern about the conflict between undergraduate and graduate education led many to argue that doctoral programs actually detract from undergraduate offerings. The Review Team does not agree with this thesis, but does believe that creating the right synergy between doctoral programs and undergraduate education doesn't just happen automatically—it requires careful attention and very likely additional resources. The current trend toward involving undergraduates in research is an example of graduate/undergraduate synergy at work, though it should be emphasized that this approach is being employed effectively by colleges and universities that have few or no doctoral programs.

Both types of doctorates also likely strengthen master's education, but the same caveats mentioned for the relation to baccalaureate programs apply. Many of the highest demand master's programs, such as the M.B.A. and the various masters in information technology, do not have a research focus leading to doctoral work, but are instead intended to prepare professionals for the workforce. Again, improving the masters cannot be a principal justification for creating a doctoral program.

There was a time in which university leaders believed that "institutional prestige" would be enhanced through the achievement of doctoral status. This idea has been largely discredited. It is true that the top tier of comprehensive research universities have an advantage in recruiting faculty and students, but the Review Team has seen no evidence that universities with a few mediocre doctorates achieve any similar benefit. By contrast, leading research universities are now renewing their appreciation of the importance of undergraduate education, and the momentum is beginning to shift toward a better balance between undergraduate and graduate education, with the best known universities redirecting resources and attention to undergraduate programs. In today's environment, a university that attempts to enhance its prestige primarily by adding research doctorates is facing a high probability of expensive failure. It costs a lot just to mount a weak research program, even in less resource-intensive areas like the humanities and social sciences, and weak programs don't do much for anyone—faculty, students, or the citizens of the state.

IV. Observations on Proposed New Programs

This section offers comments and observations on the proposals for new Ed.S. and doctoral programs that occasioned the current external review by the ADHE. The recommendations provided here should be taken in the context of the overall priorities for the state described by the Review Team in section V (Recommendations for Statewide Priorities, Initiatives and Organization). Briefly, this later section argues that, despite the long-term importance of doctoral programs to the economic future of the state, its short-term priorities should be in improving access to higher education and in strengthening science and engineering programs all levels.

This review was intended to look at the "big picture" of doctoral education in Arkansas in order to assist the Coordinating Board in making decisions on general directions, both for the approval of new degree programs and for

BEST COPY AVAILABLE

investment in advanced graduate education. The Review Team was not charged with the consideration of any of the specific new program proposals and did not have access to detailed documentation about proposals now being reviewed by ADHE. The Review Team members are, however, familiar with the disciplinary context in which all of the proposed new programs would function. For example, all of the team members have been responsible for oversight and review of doctorates in education, social sciences, humanities, and the sciences and are very knowledgeable about the criteria for success in these disciplines. As a consequence, the Review Team believes that it is appropriate for it to provide observations about the general environment in which new programs would have to function and about the public resources needed for them to achieve appropriate goals. We will first provide some comments that apply to all new degrees, then offer some specific context on the Ed.S. and on the areas in which new doctorates are proposed.

General issues in the consideration of new doctoral programs

It is useful to provide general observations on some issues that cut across most of the proposals currently before the board: measuring new proposals in light of their "opportunity cost;" the claim of "no new resources;" the idea of local/ regional access for students; and the importance of collaboration.

Need for programs considered in light of "opportunity cost"
There is rarely a question that a proposed new program will provide some benefits. The standard of comparison, however, should not be to an abstract measure of benefit, but instead taken in light of what economists call "opportunity cost." Succinctly stated, this means that a given new investment should not be considered simply on whether it will produce a return, but on whether it will produce a greater return than other areas in which the available monies might be placed.

While research programs can have substantial regional benefit, this is generally true only for the most expensive program areas, notably science and engineering. Moreover, the spin-off benefits of new research programs typically take a considerable period of time to appear—the university has to overcome the very strong tendency of outstanding faculty, postdocs, and graduate students to choose more established competitors.

Finally, the Review Team does not believe that starting a doctoral program is a good way to address deficiencies in baccalaureate or master's education—whether these are in program quality or in productivity. The best way to respond to these concerns is in direct investment in the programs at those levels, rather than indirectly through doctoral programs.

The claim of "no new resources"
This is an appropriate context in which to address the idea that a research doctoral program "will not require any new resources." Statements to this effect are often made by faculty who are anxious to secure a program, but the actual experience usually turns out to be different. Unless a "no new cost" program has the unlikely objective of remaining forever in the third or fourth tier nationally, there will be a recurring request for new faculty, for

more time off for research, for additional graduate assistant positions and higher stipends, and, depending on the program, for greater library resources, or new facilities, or better equipment, or all of these. Graduate education is not unlike the business world; it is a competitive environment and it takes effort just to stand still, and a lot of work to move ahead. Moreover, while a business can be successful without being among the best in the nation, a research graduate program should compete with the best in at least some areas to be viable. Unless a proposed new degree reflects a simple repackaging of existing efforts (as in a multidisciplinary degree), the Review Team believes that ADHE should be very skeptical of claims that a program will not need any additional resources.

The idea of local/regional access for students

Universities and community leaders sometimes argue that students need commuting access to doctoral programs. In the case of practitioner/ professional degrees (such as the Ed.D.), this is often a reasonable assertion. As noted earlier, these degrees do not operate in a national context and are designed principally to provide enhanced knowledge and skills to the workforce. In reviewing program proposals of this kind, the principal concern is whether there is sufficient demand, sustainable over a long time, to justify the critical mass of faculty, facilities, library, and other resources needed for a high quality program.

By contrast, the Review Team strongly rejects the idea that research doctorates should be placed in a way that responds to local/ regional commuting needs. Again, research doctoral programs by definition compete at the national and international levels. To be effective, such programs need to draw students from around the world, something that usually requires enormous investment. Given the scale of resources required for success, orienting a research doctoral program to local or regional need is infeasible except for very large metropolitan areas. Moreover, again as noted earlier, the impact of a research doctorate on its home region should not be thought of in terms of the placement of graduates. Rather, advanced research programs provide benefits through consulting, technology transfer, and baccalaureate and master's graduates.

The importance of collaboration

The move to collaboration across institutions is relatively recent for most graduate disciplines (a few areas such as high-energy physics, where shared resources have been an absolute necessity, are long-standing exceptions). The idea of collaboration is now gaining ground for several reasons. One is that technology makes it much easier for faculty and graduate students to interact across a distance—videoconferencing, e-mail, real time sharing of instrumentation are powerful new tools for collaboration. Another reason is that, at least in many scientific disciplines, the scale of effort required to attack complex new problems requires larger and more sophisticated research teams than in the past. Since even large universities often lack the resources to support such teams, multi-institutional approaches have considerable appeal. Finally, state systems of higher education, which have in many cases needed to distribute their higher education investment across multiple institutions in order to respond to local demographics, find that these relatively small universities lack the critical mass to be competitive in

research. The problem becomes more acute in light of the increasing complexity of research just described. And, the seriousness of the state's lack of competitiveness is exacerbated in a society where it is critically important not just to be a creator of knowledge, but where it is equally important to be *perceived to be* a creator. State systems can encourage collaboration through tools and incentives; these are described in Part V. of this report. The Review Team encourages ADHE and other leaders in the state to be both sympathetic and patient. Collaboration is not easy; it requires a great deal of hard work and faculty time, and is especially challenging when faculty are simultaneously being pressed to improve undergraduate education and enhance their scholarly productivity. Even so, the synergy that follows from this work can provide immense benefit to the state.

The Ed.S. in context

Ed.S. and Ed.D programs, which fall into the practitioner/ professional degree category, are important in that they make administrators more effective, both as managers of organizations and as leaders in promoting more effective teaching. Changes in licensure for administrators in Arkansas focus upon performance-based standards. The licensure for district level leadership positions is now based on the "value added" concept of preparation of school administrators. The near-term demand for holders of the Ed.S. in Arkansas appears to be considerable. According to projections developed by the ADHE, there will be 802 vacancies in the period 2000-2005 from among the state's existing ranks of superintendents, principals, assistant principals, and central office (district) administrators. [1] Providing qualified individuals for these positions will be a major challenge for Arkansas' system of higher education.

Despite the need for more Ed.S. training, the state should be cautious about the extent to which resources are focused on these programs; they shouldn't detract from the fundamental mission of training and supporting teachers. The Review Team hasn't studied teacher education programs at these universities, but knows that such programs are weak nationally and therefore probably not as effective as they should be in Arkansas. There is at this time a very strong national movement to focus efforts on strengthening teacher education, and the Review Team does not want to suggest that too much faculty and administrative effort go toward building Ed.S. programs if it comes at the expense of activities such as improving teachers' pedagogical and cognitive skills or their content knowledge.

Specific recommendations for proposed Ed.S. programs

The Review Team believes that new Ed.S. programs should establish formal cooperative agreements with existing programs at ASU, UAF, UALR, and UCA. These agreements should address areas of possible collaboration, including such issues as: shared coursework (including the use of technology), shared resources, and articulation to the Ed.D.

---

[1] ADHE Survey, *Survey of Projected Vacancies of School Administrators, 2000-2005.* April 13, 2000. This important document is attached as Appendix B.

Where possible, new Ed.S. programs should take advantage of technologies such as television links and computer mediated instruction. These approaches have the potential to improve both efficiency and quality. The Review Team urges, however, that the use of technology be approached with caution. The program in question is not a simple set of training modules, but an advanced graduate program whose objectives include imparting critical thinking and research skills that cannot be delivered through passive media.

Finally, the Review Team does not believe it would be advisable to extend full Ed.S. authority to other universities than those who already offer it (including ATU and Henderson State if approved by the ADHE). Rather than have more new independent programs, the Review Team suggests that the ADHE explore the possibility of partnerships between universities wishing to add the degree (for example Southern Arkansas) and one or more of those that already have the authority.

The context for new social science and humanities doctorates

The Review Team is well acquainted with the job market for Ph.D.s in the social sciences and humanities—with few exceptions it is one marked by prolonged and dramatic oversupply, one that makes successful placement of graduates a daunting challenge. To consistently place graduates in positions, both academic and non-academic, for whom the doctorate is the appropriate minimum credential, a program has to be excellent. While it is certainly conceivable that Arkansas universities already have sufficient qualified faculty in these areas to provide students with a very good education, the fact is that there are many outstanding programs currently in existence, and being "good" is not sufficient—the goal has to be excellence. Unfortunately, achieving excellence is likely to require substantial, patient investment over many years. Even then, given the "reputation lag" that is typical in higher education, it will probably be many additional years before a program is *perceived* to be excellent. In the meantime, it will be very difficult for the program to attract first rate graduate students and it is very unlikely that more than one or two of these programs' graduates will be appropriately placed in the region.[2] Finally, although in all cases university representatives stressed that the resources for these programs are already in place, the Review Team believes that this is not a good reason to start a new doctoral program, even a relatively inexpensive one.

The context for new knowledge and information management programs

There are two important concerns about starting new programs in this area. First, while the demand for doctoral graduates in all areas of information technology is high, it is strong only in the most technologically advanced areas of the nation. In other areas, employers are most anxious to find individuals with associate, baccalaureate, or masters degrees, or with

---

[2] "Appropriately placed" means in jobs for which the doctorate is truly the necessary credential. Given the long-term glut of graduates, Ph.D.s. in History are employed in a wide range of positions, but there is a difference between simply having a job and having one in which the specialized knowledge and research skills of a doctoral graduate are in fact necessary.

graduate certificates. Second, even the strongest and best established doctoral programs in information technology are currently finding it very difficult to attract domestic students. The reason is simple—prospective students can easily determine that, in today's superheated market for baccalaureate and master's degree holders, the time spent on a doctorate provides a poor return on investment. In summary, while there is a strong need for doctorates in information technology and related areas, it is doubtful that this is a reasonable priority in Arkansas at the moment.

The context for new physical and life science programs

In order for the state to move forward technologically it is important that there be an active scholarly process in the sciences. Such activity often directly relates to the ability to attract new and sophisticated industry, and failure to be a player in this arena can relegate the state to second class status on a national scale. First and foremost, it is important for the state to support and strengthen its existing programs in the sciences. Cautious development of new initiatives can also be productive if those programs make wise use of existing research skills and resources. This can happen by developing doctoral offerings that bring together existing faculty resources from a number of departments within a campus or from several institutions. At times there may be a critical mass of active faculty researchers, operating across a series of departments, who are better poised to collectively provide service to an interdisciplinary program than they would be to programs within their own departments. Also, doctoral programs in the sciences conducted jointly by one or more university can sometimes help to assist in statewide research efforts.

Measures of the viability of a proposed program include consideration of the opportunity cost as well as national recognition of the research enterprise currently in place. An example of this appears in the proposed Microelectronics/Photonics program where endorsement in the form of a highly competitive NSF-IGERT grant establishes national credibility from the onset and also provides funding that would not exist in other initiatives.

Observations on current programs and focus areas at universities proposing new doctorates

The Review Team very much appreciated the opportunity to read the provided materials and subsequently to meet with university representatives and to discuss with them a range of topics that are relevant to the current study. The following sections report the Review Team's principal observations from these meetings.

University of Central Arkansas

Both the administration and faculty at UCA emphasized to the Review Team that the institution had no short-term plans for new doctorates. The Review Team believes that this is the appropriate path given UCA's predominantly undergraduate and regional service role. An exception to this limitation would be partnership in statewide collaborative degrees. The fact that a number of UCA faculty already hold joint appointments with UAMS is a very positive sign for collaboration.

University of Arkansas for Medical Sciences

Both the administration and the faculty at UAMS emphasized to the Review Team that the institution had no short-term plans for new doctorates. The Review Team believes that, given the size and resource base of UAMS, it is appropriate for it to be conservative about developing new programs. The existing programs appear to be of good quality, but they have very low enrollments; as a result it seem that strengthening these programs, rather than diversifying the base, should be the top priority.[3]

Even though the level of federal support for life sciences research is expanding rapidly, this area is becoming sharply more competitive as the nation's leading universities and university systems have shifted resources to respond to new opportunities. Most observers believe that, given the complexity of the problems now extant, the key to successful life sciences research in the future will be based on the ability of an institution to focus resources in order to achieve a critical mass of faculty, postdocs, graduate students, equipment, and facilities. For UAMS, this reinforces the view that the number of program areas should be limited, and suggests that there will be considerable benefit in expanding collaborative partnerships with UALR and UAF. Although successful collaborations are often difficult to build and operate, they can easily make the difference between success and failure in acquiring the needed resources.

UAMS' current research productivity seems quite strong, but the institution appears to be relatively uncompetitive in graduate student stipends; current stipends are in the range of $15,000 annually, while national norms for competitive institutions are in the range of $18-22,000 (typically with full benefits). It will be important for the state to assist the university in keeping these stipends competitive; failure to do so will not only prevent further research growth, it will likely put the existing programs at risk. As a partial solution, the Review Team believes that UAMS should reconsider the policy of keeping uniform stipends across disciplines. An inflexible approach could inhibit growth in higher demand areas. It is a fact of life that different disciplines command different salaries at all levels.

The Review Team applauds UAMS' move to a combined graduate program. This is the direction being followed by the strongest programs in U.S., because it best reflects the interdisciplinary nature of life sciences research today.

University of Arkansas at Little Rock

As at UAMS, both the administration and the faculty at UALR emphasized to the Review Team that they had no short-term plans for new doctorates. The Review Team believes that, given the metropolitan mission of UALR, it is appropriate for the university to be very cautious about developing new doctoral programs. In this context, we should mention that the Review Team

---

[3] Not all degree titles represent new programs. For example, many universities are moving to offer new interdisciplinary degrees such as a Ph.D. in Neurosciences. Adding such degree offerings may not require significant new resources and, if that is the case, the Review Team recommends that the Coordinating Board approve proposals of this kind as expeditiously as possible.

was very impressed with the clear sense of mission established at UALR.[4] It is a metropolitan/ urban university with selected research doctorate and practitioner/ professional doctorate activity. In the experience of the Review Team, far too few universities have a precisely articulated statement of mission, and UALR should be applauded for its leadership in making clear the areas in which it will focus its efforts in teaching, research, and service.

The Review Team does believe, however, that it is appropriate for UALR to expand its doctoral participation in several ways. Collaborative programs can be successful with very few additional resources, and a limited amount of participation in such efforts need not challenge the mission of the university. For example, UALR has already played an exemplary role in assisting with the development of UAMS' nursing program.

The Review Team also hopes that ADHE will be a partner with UALR in allowing it to take a stronger role as a resource for the Ph.D. programs of UAMS and UAF. The principal vehicle that the ADHE could use to make this possible would be modifications to the funding formula that would allow selected UALR science and engineering faculty to have lower teaching loads.

Arkansas State University

Various documents provided to the Review Team by ASU stress the university's focus on regional service. One example is the Delta Studies Center, which emphasizes the role of ASU as "the leading university in studying, celebrating and developing the Lower Mississippi River Delta." This and other activities present the image of a university, which understands and embraces the service mission of higher education. The Review Team applauds this emphasis and achievement.

The Review Team suggests, however, that the ADHE carefully question whether adding new doctoral programs is the most effective way for ASU to expand and enhance its mission. The Review Team heard several people emphasize the importance of the university to the area. One participant described the university's mission, as "Going out and finding ways to make a difference in the Delta Region." Given that resources are limited, as they surely are in Arkansas, the Review Team questions whether doctoral programs would be of greater benefit than other alternatives. For example, in an underdeveloped part of an underdeveloped state, are there not more pressing requirements—for example for scholarships for poor students, for expanded student services, for education and training in technology areas with worker shortages? To the extent that ASU moves in the direction of doctoral education, the Review Team encourages the university to think in terms of statewide collaborative efforts.

In summary, the Review Team does not see the point in focusing on new doctorates at a time when, unless the Delta Region is most unusual, employers are desperately seeking A.S., B.S., and M.S. graduates and graduate certificate holders. We believe that the university would have a far greater impact by focusing its attention on expanding or enhancing

---

[4] See the criteria listed on page 8 of *UALR, Creating the Future Together: A Quest for Excellence*.

undergraduate, master's, and certificate offerings.

University of Arkansas, Fayetteville

The UAF is the state's comprehensive research university, with a wide range of doctoral offerings. Unlike the other universities (except for UAMS), UAF has a mission that, for almost all if not all of its programs, is both statewide and national.

UAF's role in the state

The Review Team is convinced that the existence of a comprehensive research university provides value to the citizens of the state that is fully commensurate with the considerable investment required. The Review Team is concerned, however, that UAF may not be able to sustain high quality in all of the areas in which it currently offers the doctorate. At the moment, there are some 32 programs, which seems a great many given a doctoral enrollment of fewer than 700 students.

To assist the university in deciding how to focus its resources for the greatest possible advantage, the Review Team recommends that the ADHE and UAF undertake a rigorous external review of the existing doctoral programs. As described above, the purpose of such a review should not simply be to determine if existing programs are of acceptable quality, but rather to consider the opportunity cost-- whether the program mix can be optimized in a manner that is consistent with the capabilities of the university and the needs of the region, the state, and the nation. The goal of the review, the Review Team believes, should not be the artificial one of trying to achieve "top 10" (or any other number) status for some group of programs. Rather, the purpose should be to ensure that the university's programs are, or are on the threshold of becoming, ones that operate at the highest level of effectiveness according to measures appropriate for the discipline. In some areas, the national cohort of these programs might be twenty-five or even more, in others perhaps only five or six. It will be important to keep the nature of the competition in mind in making choices.

The Review Team does not intend to convey that all of UAF's programs must be national in scope. As noted earlier, practitioner/professional doctorates can be highly effective without competing nationally. And it seems reasonable that some substantial part of UAF's program mix should be in doctoral areas, both research and, that benefits the regional and state economy. It will also be important in this regard to pay close attention to the role of Master's education.

UAF is the state's "flagship" university, and the Review Team believes that it is important in this context to emphasize that being a flagship means not just providing direct assistance to people and institutions throughout the state but also working in partnership with other universities and colleges to provide these services. The other universities and colleges (including community colleges) are valued by people in their regions and where possible should have a role even in research-based activities. There are a variety of ways to accomplish this kind of synergy. One is to employ structured collaboratives. Another is through less focused collaborative partnerships, such as ones in which faculty from other universities hold

graduate faculty status at UAF.

In describing its goal of substantially expanding its role in graduate education and research, UAF cites collaboration with other universities as a major foundation on which to build. UAF has some solid accomplishment in this area already. There are effective relationships with UAMS, and in a more general context, work with eight community colleges in the Arkansas Consortium for the Teaching of Agriculture.

V. Recommendations for statewide priorities, initiatives and organization

In addition to recommendations about individual universities and programs, the Review Team's charge included the opportunity to comment on broader statewide issues. Accordingly, we offer observations about priorities of investment, about initiatives that might be taken to improve higher education, and about the organization of higher education in the state.

Priorities

The Review Team was asked to comment on overall priorities, including "the appropriate balance between undergraduate and graduate programs," as well as goals for doctoral program development in light of the state's employment projections. In response, the following section emphasizes two categories of priority. First, the state must continue to improve access to higher education, with an emphasis on its less developed regions and for underrepresented minorities. Second, the Review Team believes that the state should focus on improving its science and engineering base at all levels.

Improving Access to Higher Education

The information presented by Dr. Dennis Jones of NCHEMS to the Trustee Conference in January 2000 provides compelling evidence as to why improved access to higher education should be the state's highest priority.

Number of Associate Degrees awarded per 100 high school graduates	Number of Bachelor's Degrees awarded per 100 high school graduates	Percent of 1990 population with a Bachelor's Degree or higher
~13; last in the peer group	~33; last in the peer group	~13%; last in the peer group

Source: Dennis P. Jones, *Information for Strategic Decision Making.* Little Rock: January 21, 2000. The peer group of states includes: Alabama, Kansas, Oklahoma, Mississippi, Kentucky, Missouri, Texas, Tennessee, and Louisiana.

While the Review Team does believe that stronger graduate education can have an educational "pull" effect—attracting and retaining the kinds of businesses and industries that encourage workers to improve education--we do not believe that graduate education can be the principal vehicle for changing the state's very low participation in higher education. Instead, the state must attend to: 1) improved academic preparation of students leaving high school; 2) increased affordability of higher education; and 3) enhanced "aspirational" access—finding ways to convince students and parents, beginning at least in middle school, that higher education is a desirable and

attainable goal.

Strengthening the state's science and engineering base

In addition to the data cited above, statistics given us provide striking evidence that Arkansas is an especially undereducated state in science and technology disciplines.[5] This is a particular concern given general agreement nationally that the current economic boom in the United States is fueled by advanced technology and that a growing shortage of technologically skilled workers is the biggest threat to continued expansion. As a consequence, access to these workers is a key criterion in attracting and retaining high growth/ high value businesses. Given the importance of enhancing the workforce, the Review Team believes that the most appropriate initial focus for new state investment in science and engineering is on the Associate, Baccalaureate, Masters, and graduate certificate areas. These programs provide the greatest impact on a state's economy and knowledge base by directly addressing critical workforce issues. There is also a national shortage of doctoral graduates in many areas of science and technology, but, outside of academe, demand for these graduates is high only in the technologically most advanced regions of the nation.

Although Arkansas does not at the moment qualify as one of the nation's technologically advanced areas, the Review Team believes that it is reasonable for it to aspire to that status. Two generations ago, no one would have expected that Austin Texas, Northern California, and the Raleigh-Durham area of North Carolina would make everyone's list of the nation's top ten knowledge-industry areas. The successes of Austin, Silicon Valley, and the Research Triangle demonstrate the role of strong research-oriented science and engineering universities in driving economic development. The Review Team believes that Arkansas should follow the example of these areas and move to nurture selected areas of research excellence that will also have local economic impact. However, because there is not at present a very strong base of existing programs, investments such as these cannot be viewed as a short term strategy. As noted earlier, a research program has little value unless it is internationally competitive. Taking programs to this level requires significant, sustained investment. Specific suggestions for doing this are described later in this report.

In summary, we believe that the state needs to invest for both the short and the long run, and in the short run, investments in doctoral education will provide a comparatively smaller economic "bang for the buck." As the state's overall educational level improves in consequence of the short term investments, additional funding for doctoral programs will become relatively more productive because it will be placed on a stronger educational and economic foundation.

---

[5] For example, using data supplied by the National Center for Higher Education Management Systems (Dennis P. Jones, *Information for Strategic Decision Making*. Little Rock: January 21, 2000), Arkansas has about half the number of engineering baccalaureates (15.4) per 1,000 high school graduates as eight of nine peer states. Using the same measure, the number of science baccalaureates (29.4) is lower than all of the peer states. In the proportion of employed scientists and engineers, Arkansas ranks 50th according the *State New Economy Index*.

Initiatives

Since the Review Team's charge was limited to graduate education, we do not offer suggestions about how to achieve our recommended first priority of improving access to higher education at all levels. The following, therefore, is limited to ideas about strengthening collaboration and on building the science and engineering base.

Facilitating collaboration

The Review Team has observed substantial and important collaboration among the universities in Arkansas. Still, given the small population and limited resources of the state, further collaboration needs to occur. In research and graduate education especially, achieving the critical mass needed for quality will in many cases require pooling the resources of two or more universities.

There are two basic ways to stimulate collaboration. One is through the use of incentives, and for this we propose a Statewide Collaboration Fund. The second resource for collaboration is in improving the available tools, and for this we suggest a Digital Leadership Initiative.

Statewide Collaboration Fund

The Review Team urges the ADHE to seek gubernatorial and legislative support for a new fund, to be called the "Statewide Collaboration Fund" or something similar, that would be administered by the ADHE, on a competitive basis, to improve collaboration of programs at all degree levels. This could be a part of the state higher education budget. Proposals would be expected to show ways in which partnerships could serve the state more effectively and efficiently through collaboration.

In administering such a program, the Review Team believes that it can be most effective to use a mix of internal and external reviewers. External reviewers—that is to say people from outside the state—should be used to make final funding recommendations to the Board. However, without some internal participation, there is little opportunity for individuals within the state to gain an understanding of what makes for an effective program. One way to deal with this is to have internal screening committees review and rank initial proposals; based on our experiences, a role for representatives of business and government can be very positive in this stage.

Other ways of supporting collaboration include revising the formula and seeking outside funding. But the Review Team urges the ADHE to avoid trying to push collaboration too hard too quickly. Forced collaborations don't work, and leaders should be careful not to be perceived as wanting to have everything be collaborative. In particular, it is essential that the program guidelines not try to prescribe forms of collaboration. Successful partnerships can exist in a wide variety of formats; it is best to let those who will have to live with it determine what operating structures will work best.

Digital Leadership Initiative

The Review Team recommends that Arkansas start an initiative to support the most critical of enabling technologies—digital networks. This would involve a concerted effort to get fiber optic links to all locations and to put in place some really high speed links (including in-state connections, not just Internet II). The existing plan, described in the "Arkansas Backbone Network" document,[6] seems to be a very well conceived first stage effort.

The expanded and enhanced digital network would facilitate collaboration; some, perhaps all, Statewide Collaboration Fund proposals would be linked to this. State of the art networks do have a "pull" effect—it is unlikely that faculty will develop leading edge applications for collaborative instruction and research if they don't believe that they will have access to the network capacity needed to make them happen. On the other hand, if the resource is available, intellectual entrepreneurs will take advantage of it. The existing plan for a statewide library collaborative should be linked to the network effort. Libraries are increasingly electronic, and adequate bandwidth is a key criterion for successful service.

The goal of the Digital Leadership Initiative should be to ensure that Arkansas' network is second to none; a relatively small investment in this area will have a disproportionately high payback, both in tangible activities and in local and international perception.

Focusing research

The Review Team believes that Arkansas should develop a plan to build research programs that have sufficient focus to be competitive and that are active in areas that have the potential to enhance the state's economic development. We recommend that the state then begin to seed these efforts with special funding.

Graduate/ Research Breakthrough Investment Fund

Following ADHE's Review of Need and Priority for Graduate Education (see below), the Review Team believes that the state should begin a focused, sustained investment in leading edge graduate/ research programs. Called the Graduate/Research Breakthrough Investment Fund or something similar, this would be a significant pool of dollars allocated competitively at the state level. The idea would be to fund investments in 2-3 areas of science and engineering, with each program crossing at least two of the three universities with academic strength in these areas (UAF, UAMS, UALR). G/R BIF awards should be linked explicitly to the state's economic development and should be structured in such a way as to emphasize the hiring of outstanding faculty—without real leaders in developing new

---

[6] Department of Information Systems Special Projects, www.dis.state.ar.us./DIS/Proj/Backbone

knowledge, funds for facilities and equipment are wasted. If the only monies available are on a one-time basis, the emphasis should be on the creation of endowed chairs. If annual funding is preferred, there should be a clear understanding that continued allocations over at least ten years will be essential; after that time, salaries could be covered by grants and normal program growth.

Organization

The Review Team is of course aware of past controversy over the organization of higher education at the state level in Arkansas. While we do not think it is appropriate for us to recommend changes in organization, we do think that there are some issues of operational responsibility that, if better defined, could assist in the effective work of the system.

Role of the ADHE

The Review Team believe that the coordinating board needs somewhat better defined authority in "role and scope" and that an effective way to secure this is through revised powers in program approval/ program review. In the view of the Review Team it is incorrect to believe that the decision on which programs an institution should offer rests solely with that institution. The offerings of each institution in the State have the potential to affect every other institution. Resources in support of the institutions come from state sources and the universities retain a state affiliation. Consequently, the State has an obligation to provide strong central leadership in coordination of program offerings.

The Review Team recommends three actions to strengthen the operation of the coordinating board's responsibilities in program review: a two and one-half year moratorium on consideration of doctorates or education specialist degrees; a Review of Need and Priority to inform decisions once the moratorium is ended; and some revised mechanisms for program approval and review.

Review of extant proposals/ moratorium on further consideration

The Review Team believes that the ADHE should determine, in the context of the Team's comments, which of the current new program proposals it will review directly, then impose a moratorium on consideration of other new proposals for a period of several years—e.g. to January of 2003. The Board would use this period to work with public, business, and university leaders to determine a clear set of priorities for advanced graduate education as well as to determine the extent to which multi-institutional collaboration can be expected.

Review of need and priority

Given the expense of advanced doctoral education, and particularly the challenges involved in creating competitive doctoral programs, the Review Team believes that the ADHE should follow the review of UAF programs with a statewide assessment of need and priority. This should be a conversation that includes leaders in higher education, business, and government, with the possible assistance of external consultants, in determining the areas in which focused, sustained state investment will lead to the greatest benefit for the state,

including both its economic development and quality of life. Once these decisions are made, the areas of priority should be the basis for choosing investment for Graduate/ Research Breakthrough Investment Fund awards.

Revised mechanism for program approval and review

To be effective in its responsibility for new program approval, the ADHE needs to have the authority to limit potentially wasteful investment at campuses prior to their seeking approval of new programs. This can be done without interfering in the campus role in program management through a simple mechanism-- fully developed program proposals should not be considered by the ADHE without an earlier approval of the concept of the program. This initial "concept" review should address the issues of state/national need, resources, and institutional mission. If the ADHE agrees, the proposing university would secure the "freedom to plan" for a new degree. Explicit in this approval would be the right to commit the resources needed for academic quality. To ensure that this system works effectively, the ADHE should mandate a minimum three year time period between initial presentation of program concepts and final approval of the program. This time period would substantially discourage abuse of the two-stage approach.

Program review

The Review Team also has some specific comments on the role of the ADHE in the review of existing programs.

Regular review

The Review Team believes strongly that program review at the state level should not be done routinely. A regular schedule, such as the five-year approach used by some states, tends to dull the impact of the reviews and promote growth of bureaucracy. Program review at the state level should occur only when warranted by extraordinary circumstances.

While the Review Team believes that program review should be done with great caution at the state level, a regular process at the campus level is, of course, essential. While it is appropriate for the ADHE to be involved in working with the universities to design standard campus level processes, which should always include external review at regular intervals, we do not believe it is appropriate for the ADHE to receive or have access to the reports generated at the campus level. The constructive candor needed in such reports will not be forthcoming if local review teams think that their observations will be sent into what they will perceive to be a political context.

Special reviews

When the state does mandate a review, as the Review Team has suggested for UAF, the team proposes that it be managed in two phases. In the first, external reviewers selected and

charged by ADHE, but with the participation and concurrence of UAF, would review each discipline (in some cases, one team might review a collection of similar disciplines). Once the results of all such reviews are available, the information would be provided to a more broadly drawn group that would include 1) academics with a university-wide perspective from outside the state, such as current or former presidents, provosts, and graduate deans; 2) selected business and government leaders from outside the state. The ADHE would receive both the reports of the specialized reviewers and of the larger advisory group; this would help build the context in which to make decisions that cross disciplinary boundaries.

VI. Arkansas in the national context of higher education

In closing, the Review Team wishes to comment on two issues that have not been covered previously: the very strong leadership that now exists in the state's higher education institutions and system, and the potential for Arkansas to aspire to a substantially greater level of achievement in higher education and through it in economic development.

Strong leadership

The Visiting Team met, albeit briefly, with some of the senior university leaders in the state. Despite their short duration, these conversations convinced us that the state is extremely fortunate in the high quality of leadership in its universities.

The Review Team was also able to talk with a number of legislators, and was very impressed with their knowledge of the issues in higher education and, especially important, we noted their strong commitment to seeing that the state's universities are both accessible and operate at the highest level of effectiveness. The experience of the Review Team is that such legislative knowledge and commitment is relatively rare, and we hope that, as term limits begin to take effect, these and other members of the legislature will endeavor to assist new members in assuming a similar role of leadership.

The ADHE staff is very knowledgeable about higher education in both the state and national context, and clearly understands that the purpose of a coordinating board is to add value rather than to provide an additional layer of management. The high quality of the staff is appropriate to the stronger role the Review Team proposes for the ADHE. Our visit with Board members was relatively brief and only with a small subset, but here also we had the impression of a very capable and committed group of individuals.

Aspirations for higher education

Arkansas today has a small population and an economy that by many measures is less modern than that of the nation as a whole. Many of the individuals with whom we met expressed concern about these factors and about their belief that many of the most talented high school graduates leave the state to attend universities elsewhere and never return. Taken together, these factors could be cause for thinking that Arkansas will be stuck in a relatively less advanced economic position for the foreseeable

future.

A more optimistic view, however, would be to note that North Carolina was in much the same situation in the 1950s. The key ingredients in North Carolina's subsequent success are well known. First, the state's political and business leaders came to the conclusion that transformation was necessary and that higher education would be the lever. This agreement was bipartisan and transcended regionalism. Next, a succession of governors and legislatures patiently invested in higher education, focusing on the universities in the Raleigh-Durham area, and on an outstanding system of community colleges statewide.

The result was a powerful magnet for development that initially brought rapid development to the famed Research Triangle in the Raleigh-Durham area, but also quickly spread throughout the state. An example of the statewide spin-off is the huge boom in Charlotte and its region. Who would have believed, even twenty years ago, that the Bank of America would move its headquarters from San Francisco to Charlotte?

What is not well known about North Carolina's miracle is that the success of the Research Triangle came not through direct state investments in land, facilities, or subsidies, but in careful nurturing of the state's colleges and universities. In developing programs that were both of high quality and of high relevance, academic centers that were respected and admired nationally and internationally, North Carolina changed both its own state of mind and public perception of it as a place to live and work.

If leaders in Arkansas are willing to make the effort for a similar consensus, and follow it with a similar commitment, this state could have the same kind of success as North Carolina.

VII. Summary: Recommended next steps for the Coordinating Board

A. Ask the ADHE staff to make recommendations concerning the doctoral program proposals currently under consideration. These recommendations should be made in light of this report.

B. Consider declaring a moratorium on the consideration of new doctoral program proposals until January 2003.

C. Develop a plan for the strengthening the state's science and engineering base

D. Conduct a review of the doctoral programs at the University of Arkansas, Fayetteville and assist in developing areas of priority for further development and enhancement.

E. Direct ADHE staff, in consultation with the universities, to develop recommendations concerning the initiatives recommended in the report. These include means of facilitating collaboration, Digital Leadership Initiative, a Review of Need and Priority for Graduate Education, and a

Graduate/Research Breakthrough Investment Fund.

Appendices

A. *Outcomes of Graduate Education Study*
B: Survey of Projected Vacancies of School Administrators, 2000-2005. ADHE, April 13, 2000.

APPENDIX A

Outcomes of Graduate Education Study

OUTCOMES OF GRADUATE EDUCATION STUDY

Background

Since 1997, the Arkansas Higher Education Coordinating Board (AHECB) has approved six new doctoral programs at three universities. The state currently has 45 doctoral programs, 69% (31) of which are delivered by the University of Arkansas, Fayetteville. The balance is divided among Arkansas State University (2), University of Arkansas at Little Rock (3), University of Arkansas for Medical Sciences (7), and University of Central Arkansas (2). As of February 2000, however, the Arkansas Department of Higher Education (ADHE) has received proposals for six new doctoral programs with another one to be submitted in the near future. The Coordinating Board is concerned about the likelihood of a proliferation of doctoral programs within the context of limited state resources.

In recent months, Dennis Jones of NCHEMS has encouraged the AHECB as well as the entire higher education community to identify the needs of the State of Arkansas and how higher education can help meet those needs. As the Board considers these needs, it feels it is the appropriate time to try to determine the needs of the state in terms of graduate education, specifically doctoral and specialist level programs.

Outcomes of Study

The consultants will be asked to provide a report that addresses the following issues:

1. In light of the state's resource commitment to four-year and two-year institutions, what is the appropriate balance between undergraduate and graduate programs? This should be addressed in the context of the varying missions within the four-year sector (e.g. land grant/research vs. limited graduate offerings)

2. Given the state employment projections and current mix of doctoral and specialist degree offerings, what programs should be developed? Given the limited resources the state has to invest, should any of the current programs (especially those in low demand) be eliminated?

3. How is the commitment to teacher education at the master's, specialist, and doctoral levels balanced within the broader scheme of graduate program mix?

4. What mechanisms for delivery of doctoral and specialist degree programs would you recommend? What innovative practices have been used elsewhere to make the most efficient use of state resources? Are there other funding mechanisms that need to be explored?

5. In Arkansas improved access to higher education for our citizens has been a high priority, especially for certificate, associate, and baccalaureate programs. How accessible should doctoral programs be for the citizens of the state?

6. What is the estimate of the additional resources that the state would need to plan to invest?

APPENDIX B

Survey of projected Vacancies of School Administrators
2000-2005

SURVEY OF PROJECTED VACANCIES OF SCHOOL ADMINISTRATORS, 2000 - 2005
April 2000

Cooperatives	# Responses	Supt. Retire/Leave 5 yrs. Yes	Supt. Retire/Leave 5 yrs. No	Hs/Jr.HS Principals	Hs/Jr.HS Asst. Principals	Elem/Middle Principals	Elem/Middle Asst. Principals	Central Office (district) Admins.	Total Projected Vacancies
Arch Ford	**32**	11	21	12	4	21	3	19	**70**
Arkansas River	**11**	7	4	9	6	15	2	9	**48**
Crowley's Ridge	**24**	12	12	15	6	17	3	21	**74**
Dawson	**28**	15	13	14	6	15	4	12	**66**
DeQueen/Mena	**15**	8	7	7	4	7	3	7	**36**
Great Rivers	**13**	7	6	8	5	10	3	13	**46**
Northcentral Arkansas	**13**	10	3	5	1	8	1	4	**29**
Northeast Arkansas	**26**	16	10	13	2	15	2	7	**55**
Northwest Arkansas	**18**	7	11	6	3	11	4	5	**36**
Ozarks Unlimited Resources	**20**	10	10	10.5	2	10.5	0	8	**41**
South Central	**20**	10	10	13	1	10	2	4	**40**
Southeast Arkansas	**19**	11	8	12	3	11	1	13	**51**
Southwest Arkansas	**14**	8	6	5	4	12	1	5	**35**
Western Arkansas	**27**	13	14	10	7	20	0	8	**58**
Wilbur D. Mills	**20**	12	8	11	4.5	12	0.5	12	**52**
Other	**4**	3	1	8	23	23	15	33	**105**
GRAND TOTALS	**296**	**160**	**136**	**147.5**	**77**	**205.5**	**44**	**168**	**802**
Employed Totals in State		310		409	270	696	220	N/A	

Source: ADHE Survey, February 2000

Update: May 16, 2000

BEST COPY AVAILABLE

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

[X] This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

[ ] This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").